

Background

STEM = Science, Technology, Engineering, Mathematics

- STEM - yes....important
- STE**A**M - oh, yea, we can't forget about the ARTS!!!
- Well, content area instruction helps with background knowledge needed for gaining more information through reading; thus, when teaching content areas we need to teach ALL children how to access information from the text. Thus, evidence-based reading instruction needs to be embed into content area instruction producing **ST**E**AM**.



Video

- Find video about the importance of content area literacy.



What do we know about students who struggle with reading?

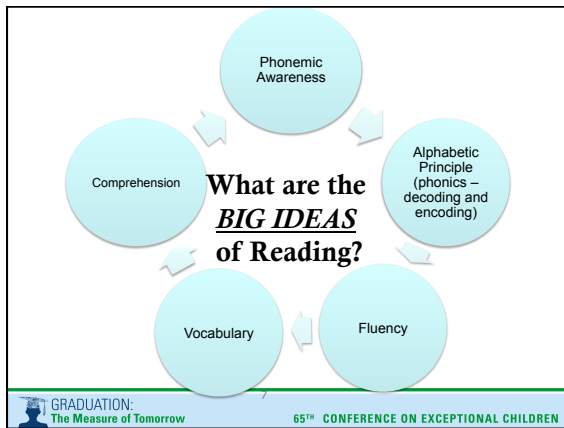
- They...
 - have low basic reading skills, specifically with decoding multisyllabic words.
 - have poor vocabulary.
 - lack strategies for comprehending written text.
- Thus, these students read below grade level and struggle to access content from text making content area courses more challenging.

What's the solutions?

- Collaborations between special education and general education teachers to embed literacy instruction in content area courses promotes gains in reading achievement of students struggling with reading.

Research Studies in Content Areas

- O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J. (2015)
- Swanson, E., Wanzek, J., Vaughn, S., Roberts, G., & Fall, A. M. (2015)
- Vaughn, S., Swanson, E. A., Roberts, G., Wanzek, J., Stillman-Spisak, S. J., Solis, M., & Simmons, D. (2013)



Lesson Format for 60-Minute Block

- **Decoding** Instruction with Content Area Words (5-15 minutes)
- **Vocabulary** Instruction with Content Area Words (10-15 minutes)
- Content Area Reading with Embedded Reading **Comprehension** Strategy Instruction (varied reading levels) and Discussion (30-45 minutes)

Planning Instruction: Step 1 ~ Assess Reading Levels of Students

- Assess reading level of all students (decoding and comprehension)

Level	Decoding	Comprehension
Independent	95% word accuracy	90-100% accuracy
Instructional	90% word accuracy	70-87% accuracy
Frustration	Less than 90% accuracy	Below 70% accuracy

Planning Instruction: Step 2 ~ Find Supplemental Reading Materials

- Based on reading levels of the students, find supplemental reading materials to match independent and instructional levels with content area topics within the lesson.

Planning Instruction: Step 2 ~ Find Supplemental Reading Materials (continue)

- Resources:
 - Use leveled books with school.
 - Ask to order additional books.
 - <http://www.highnoonbooks.com/HNB/aboutnbnb.html>
 - <http://www.sdlback.com/hi-lo-reading>
 - <http://teacher.scholastic.com/products/guidedreading/extend.htm#section5>
 - <https://www.hip-books.com/home.php>
 - <https://www.mheonline.com/discipline/tags/4/22/>
 - <https://my.vanderbilt.edu/specialeducationinduction/files/2013/07/1-List-of-Adolescent-High-Interest-Literature.pdf>

Planning Instruction: Step 3 ~ Review Reading and Class Material for Multisyllabic Words

- Search reading materials (textbook, supplemental reading, etc.) for challenging multisyllabic words to pre-teach before reading text.
- Search class materials (PPTs, handouts, etc.) for challenging multisyllabic words to pre-teach before reading text.
- Choose words based on lowest reading level.

Planning Instruction: Step 4 ~ Review Reading and Class Material for Vocabulary Words

- Search reading materials (textbook, supplemental reading, etc.) for challenging vocabulary words to pre-teach before reading text.
- Search class materials (PPTs, handouts, etc.) for challenging multisyllabic words to pre-teach before reading text.
- Choose words based on importance to text and frequency of use.

Planning Instruction: Step 5 ~ Choose Strategies and Plan the Lessons

- Choose strategies for teaching...
 - Decoding
 - Vocabulary
 - Comprehension

Strategies for Teaching Decoding of Multisyllabic Words

Building Decoding & Encoding

When teaching new multisyllabic vocabulary, teach students how to decode and encode multisyllabic words used in content area reading.

– How?

- Choose decoding strategy to teach.
- Provide students with the multisyllabic words.
- Teach how to divide into syllables.
- Model how to sound out the word.
- Allow time for practice and use in and out of classroom.
- Share new words with families to be used at home.

STRATEGY: Teach Syllable Skills

(Diliberto, Beattie, Flowers, Algozzine, 2009)

1. Teach students the traits of a syllable.
2. Teach 6 Syllable Types. Practice identifying and reading types in isolation.
3. Teach syllable division.

C-L-O-V-E-R

C - CLOSED SYLLABLE

L - CONSONANT-LE SYLLABLE

O – OPEN SYLLABLE

V - VOWEL TEAM SYLLABLE

E - VOWEL-CONSONANT-SILENT E SYLLABLE

R - R-CONTROLLED SYLLABLE

SYLLABLE TYPE DEFINITIONS AND ORDER FOR TEACHING

1. CLOSED: ends with a consonant; short vowel sound
2. OPEN: ends with a vowel; long vowel sound
3. VCE: vowel-consonant-e pattern, long vowel sound, e is silent
4. VOWEL TEAM: two vowels together (diphthongs and vowel combinations)
5. R-CONTROLLED: vowel R
6. CONSONANT-L-E: also called final stable syllable, occurs in a two or more syllable word – consonant-l-e

GRADUATION:
The Measure of Tomorrow

65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Teach Syllable Skills (continue)

(Diliberto, Beattie, Flowers, Algozzine, 2009)

Syllable division:

Dividing Words into Syllables Separate the prefix and suffix

- Label the Vowels & Consonants in the word (ALWAYS start labeling with the 1st vowel.)
- Look for patterns.
 - VC/CV
 - V/CV or VC/V
 - VC/CCV or VCC/CV
 - V/V
 - /cle
 - Prefix/, /Suffix

GRADUATION:
The Measure of Tomorrow

65TH CONFERENCE ON EXCEPTIONAL CHILDREN

ESHALOW and BEST

O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J. (2015)

- Teach and rehearse strategy daily before reading and discussing text with relatively easy levels.
- 15 minutes per day for 3 weeks, then decrease practice and rehearsal to 10 minutes, then 3-5 minutes.
- Once students are independent with strategy (3-5 minutes daily), then vary the difficulty of the text.

GRADUATION:
The Measure of Tomorrow

65TH CONFERENCE ON EXCEPTIONAL CHILDREN

ESHALOW and BEST

(O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J., 2015)

ESHALOV ~ "Every syllable has at least one vowel"

1. Underline all of the vowels in a long word.
2. Join any vowel teams into one vowel sound.
3. Identify known word parts.
4. Count the number of word parts to expect.
5. Break the word into parts for decoding.
6. Try a pronunciation of the word.

ESHALOW and BEST

(O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J., 2015)

BEST

- B** – Break it apart.
- E** – Examine the base word.
- S** – Say each part.
- T** – Try the whole word.

Strategies for Teaching Vocabulary

Choosing Vocabulary Words

(O'Connor, R. E., Beach, K. D., Sanchez, V. M., Bocian, K. M., & Flynn, L. J., 2015)

- Review reading materials and make a vocabulary list of words
 - critical to understanding the text and
 - Appearance frequently.
- Review Coxhead Academic Word List (Coxhead, 2000) - <https://arts-sciences.und.edu/communication-sciences-disorders/coxhead2000article.pdf>)
- Review Biemiller's (2010) *Word Worth Teaching*
- Select words used more than once in readings and words that appeared on multiple lists.

Building Vocabulary through Morphology

When teaching new multisyllabic vocabulary, teach prefix and suffix meanings.

- How?
 - If possible, group new vocabulary by prefixes/ suffixes.
 - If not, isolate the prefixes/ suffixes & teach the meanings.
 - Complete activities to practice use & connect to known & unknown words with same prefixes/ suffixes.

Strategies Building Vocabulary

- Explicitly teach new vocabulary. Teach characteristics, definition, examples, non-examples, examples of words in a sentence, part of speech, synonyms, antonyms, etc.
 - How?
 - Use the Frayer Model or a Word Map

Characteristics:	Concept or Word	Definition:(OR Non-Characteristics)
Examples:		Non-Examples:

Frayer Model

GRADUATION: The Measure of Tomorrow 65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Word Map

Synonyms	Word/Term:
Antonyms	Other Forms of the Word:
Vocabulary Word, Part of Speech, and Definitions:	My Association, Sketch, and/or Example:
Sentence or Phrase from Text:	My Own Sentence:

GRADUATION: The Measure of Tomorrow 65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Triple-Entry Vocabulary Journal

- Three columns
- 1st column write the vocabulary word
- 2nd column draw a picture or symbol
- 3rd column write the definition – see if students can write definition in their own words
- Adapted how you see fit!


GRADUATION: The Measure of Tomorrow 65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Strategies for Teaching Comprehension


GRADUATION:
The Measure of Tomorrow
65TH CONFERENCE ON EXCEPTIONAL CHILDREN


Strategies for Building Comprehension

- Front load new information using high interest and low readability text on the student's instructional level before grade level text is introduced during whole group instruction.
 - How? Work with special education teachers, paraprofessionals, and classroom volunteers to assist in implementation.


GRADUATION:
The Measure of Tomorrow
65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Strategies for Building Comprehension

- Make meaningful connections and extension from content areas to life (i.e., students' local & global communities)
 - How? Get to know ALL your students. What are their strengths, interests, hobbies, goals, dreams, etc. Connecting new knowledge to background knowledge while planning for future learning with the your students.
 - Text – to – Self (T-S): connect with personal experiences
 - Text – to – World (T-W): connections with world around them
 - Text – to – Text: (T-T): connections with other text


GRADUATION:
The Measure of Tomorrow
65TH CONFERENCE ON EXCEPTIONAL CHILDREN

Strategies for Building Comprehension

- Teach students the question-answer relationship and how to identify question types and locate answers, with questions focusing on
 - How? Use the QAR Strategy
 - Right There Questions: Literal questions whose answers can be found in the text. Often the words used in the question are the same words found in the text.
 - Think and Search Questions: Answers are gathered from several parts of the text and put together to make meaning.
 - Author and You: Questions based on information provided in the text but the student is required to relate it to their own experience.
 - On My Own: Questions that require the student to use their background or prior knowledge to answer the question.

Strategies for Building Comprehension

- Teach non-fiction text structure.
 - Table of Contents
 - Chapter Headings & Sub-headings
 - Index
 - Glossary
 - Diagrams, charts, maps, graphs

How? Model how to read each and the importance of addressing during reading. Discuss skimming and scanning text before reading.

Strategies for Building Comprehension

- Teach students how to use tools for noting important information and vocabulary. This will help the students read with purpose.
 - How? Teach students how to use sticky notes, bookmarks, and highlighters.

Strategies for Building Comprehension

- Develop Literature Circles.
 - How? Create small group for students to react and respond to and discuss what they read.

<http://www.litcircles.org/index.html>

Strategies for Building Comprehension

- Integrate reading and writing.
 - How? Use strategies that work for both reading comprehension and writing.
 - How? Find Graphic organizers that students can use during pre-planning of the writing process and to demonstrate knowledge gained from read text.

Strategies for Building Comprehension and Writing

- Teaching writing in the content area. Be sure to teach specific genres.
 - Recount – to share a personal experience
 - Procedural – to show how to do something or how something works
 - Expository - Informational – to share information
 - Persuasive – to present an opinion or an argument
 - How? Provide examples and assign writing. Collaborate with the English teachers. Use graphic organizers for planning and comprehension.

Strategies for Building Comprehension and Writing

- Use graphic and semantic organizers
 - Venn-Diagrams
 - Story/Chain of Events
 - Story Map
 - Cause/Effect
 - 5Ws&H with Events and Situations

What strategies do you use?

- Decoding...
- Vocabulary...
- Comprehension...

Questions?

Contact Information:

Jennifer A. Diliberto

jdil@email.unc.edu

Jessica Wery

jessicawery@gmail.com
